

REMARKS

Claim 13 has been amended for improved clarity. Claims 13 to 20 remain active in this application.

Claims 13 to 16 were rejected under 35 U.S.C. 102(b) as being anticipated by Galloway (EP 633607) in view of Gilleo (U.S. 6,020,220). The rejection is respectfully traversed.

To begin with, a rejection under 35 U.S.C. 102 must be based upon a single reference. Accordingly, the rejection is improper for that reason alone.

In addition, claim 13 requires a membrane for use in conjunction with a semiconductor carrier. No such structure is taught or suggested by Galloway, Gilleo or any proper combination of these references. It is noted that the bumps referred to in both references are a part of a semiconductor device and not a membrane for use in conjunction with a semiconductor device as claimed.

Furthermore, claim 13 requires an electrically insulating substrate for application to a semiconductor carrier. No such feature is taught or suggested by Galloway, Gilleo or any proper combination of these references either alone or in the combination as claimed.

Claim 13 yet further requires an interconnect pattern on the substrate. No substrate is taught or suggested by either of the applied references in the combination as claimed.

Claim 13 still further requires a stud coupled to the interconnect pattern on the substrate, the stud comprising a gold ball and a compliant material coating over a portion of said gold ball. No such feature is taught or suggested by Galloway, Gilleo or any proper combination of these references either alone or in the combination as claimed.

Claims 14 to 16 depend from claim 13 and therefore define patentably over the applied references for at least the reasons presented above with reference to claim 13.

In addition, claim 14 further limits claim 13 by requiring that the gold ball be the ball of a ball bond on the substrate. No such feature is taught or suggested by Galloway, Gilleo or any proper combination of these references either alone or in the combination as claimed.

Claims 15 and 16 further limit claim 13 and 14 by requiring that the coating be a compliant epoxy resin. No such feature is taught or suggested by Galloway, Gilleo or any proper combination of these references either alone or in the combination as claimed.

Claims 17 to 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Galloway in view of Lytle (U.S. 5,674,780). The rejection is respectfully traversed.

Claims 17 to 20 depend from claim 13 and therefore define patentably over the applied references for at least the reasons presented above with reference to claim 13 since Lytle fails to overcome the above-listed deficiencies of Galloway.

In addition, claims 17 and 18 further limit claims 15 and 16 by requiring that the compliant material be filled with a material having sufficient hardness to be capable of penetrating the oxide film on the contact pads of semiconductor devices. No such feature is taught or suggested by Galloway, Lytle or any proper combination of these references either alone or in the combination as claimed.

Claims 19 and 20 further limit claims 17 and 18 by requiring that the material be silver or silver-based flakes. coating be a compliant epoxy resin. No such feature is taught

or suggested by Galloway, Lytle or any proper combination of these references either alone or in the combination as claimed.

In view of the above remarks, favorable reconsideration and allowance are respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. M. Cantor', with a stylized flourish at the end.

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